SEMESTER END EXAMINATION APRIL-MAY, 2026

Course Name:- Master of Computer Applications(MCA) **Semester:-IV**
Paper Name:- Object Oriented Programming with Java **Paper Code:-** MCA-022
Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-75**
समय– 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं सह लेखक परीक्षार्थियों के लिए। **अधिकतम अंक–75**

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **01** marks. All questions are compulsory.
- Section B- Answer any **4 out of 6** given questions. Each question carries **07 marks**.
- Section C- Answer any **2 out of 3** given questions. Each question carries **16 marks**.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड–अ में प्रत्येक प्रश्न **एक** अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड–ब में **छः** प्रश्नों में से किन्हीं **चार** प्रश्नों के उत्तर दें। प्रत्येक प्रश्न **07** अंक का है।
- खण्ड–स में **तीन** प्रश्नों में से किन्हीं **दो** प्रश्नों के दें। प्रत्येक प्रश्न **16** अंक का है।

Section – A (खण्ड–अ)
Objective Questions (वस्तुनिष्ठ प्रश्न)

1. All questions are compulsory. **1×15=15**
सभी प्रश्न अनिवार्य हैं।

a) Multiple choice Questions.
बहुविकल्पीय प्रश्न।

i. When an expression consists of int, double, long, float, then the entire expression will get promoted into a data type that is:
   a. float
   b. double
   c. int
   d. long

ii. What value is returned by the compareTo() function in case the invoking string happens to be greater than the compared string?
   a. a value that is greater than zero
   b. a value that is less than zero
   c. zero
   d. none of the above

iii. What happens when we call two threads that have the same priority to process simultaneously?
   a. Both of the threads will be simultaneously executed
   b. Any one of the threads can be executed first lexicographically
   c. It depends on the OS
   d. There will be no execution of threads

iv. Which of the following is not an OOPS concept in Java?
   a. Polymorphism
   b. Inheritance
   c. Compilation
   d. Encapsulation

v. Which environment variable is used to set the java path?
   a. MAVEN_Path
   b. JavaPATH
   c. JAVA
   d. JAVA_HOME

b) True or False
सत्य अथवा असत्य बताइए।

I. The main method in Java must always be named start
II. The final keyword in Java makes a variable constant.
III. A while statement cannot be nested inside another while statement.
IV. Pseudocode is used to describe an algorithm.
V. To call a method of an object, follow the object name with a comma, the method name and a set of parentheses containing the method's arguments.

c) Fill In The Blanks.
रिक्त स्थानों की पूर्ती कीजिये।

I. The output of the Java compiler is known as .....
II. The ..... operator is used to create an object/instance of a class.
III. A ..... is a blueprint that defines data and functions common to all objects of its type.
IV. The ..... statement is used to explicitly throw an exception.
V. The entry point of any standalone Java application is the ..... method.

Section – B (खण्ड–ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any four of the following questions. **7×4=28**
निम्नलिखित में से किन्हीं चार प्रश्नों के उत्तर दें।

1) What is the role of 'super' and 'final' keywords in JAVA?
2) With a neat sketch, explain the lifecycle of a Thread in JAVA.
3) Write a java program to check the given string is a palindrome or not.
4) What are the differences between applet and application programs?
5) What are the drawbacks of procedural languages? Explain the need of object oriented programming with suitable program.
6) Write a program to implement multiple inheritance.

Section – C (खण्ड–स)
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following question. **16×2=32**
निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दें।

1) How Packages differ from Interfaces? Explain it with a suitable example program to calculate student marks statement
2) Create a package named 'company' that contains the Employee class representing employee details. Include methods for setting and retrieving employee information such as name, ID, and salary. Then, showcase the process of importing this package into another Java class and demonstrate the utilization of the Employee functionalities.
3) What is a Constructor? Write its main characteristics? Explain various types of Constructors with examples